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FEDERAL - STATE COOPERATIVE
SNOW SURVEYS and WATER SUPPLY FORECASTS
for

MONTANA & NORTHERN WYOMING

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE, and MONTANA AGRICULTURAL EXPERIMENT STATION

In cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, U.S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local Organizations.

APR. 1, 1957

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS

Snow surveys in the west are conducted each year at more than 1200 snow courses. Basin and Province or State snow survey reports summarizing the results of the measurements and forecasts of seasonal runoff and water supply are issued by the Soil Conservation Service, U. S. Department of Agriculture and some of its cooperators; the Water Rights Branch of the British Columbia Department of Lands and Forests; and the California Division of Water Resources.

Copies of the various federal-state cooperative snow survey reports listed below may be secured by writing to:

Head, Water Supply Forecasting Section Soil Conservation Service 209 S. W. 5th Avenue Portland 4, Oregon

BASIN REPORTS:

	Issued monthly February through May by SCS and Colorado Experiment Station, Fort Collins, Colorado.*
Columbia River Basin	Issued monthly January through May by Soil Conservation Service, Boise, Idaho.*
	Issued monthly February through May by SCS and Montana Agricultural Experiment Station, Rozeman Montana.*
West-Wide Water Supply Outlook	Issued April 1 by Soil Conservation Service and Cooperators, Portland, Oregon

STATE REPORTS:

Arizona	Issued semi-monthly January 15 through April 1 by SCS and Salt River Valley Water Users Association, Phoenix, Arizona.*
Nevada	Issued monthly February through April by SCS and Nevada State Engineer, Reno, Nevada.*
Oregon	Issued monthly January through May by SCS, Portland, Oregon, and Oregon Agricultural Experiment Station.*
Utah	Issued monthly January through May by SCS, Salt Lake City, Utah, and State Engineer of Utah and Utah Agricultural Experiment Station.*
Washington	Issued monthly February through May by SCS, Spokane, Washington, and State Department of Conservation and Development.*
Wyoming	Issued monthly February through May by SCS, Casper, Wyoming, and State Engineer of Wyoming.*

^{*}Special reports are issued as needed.

The British Columbia reports are issued February 1 through June 1 and may be secured from Comptroller, Water Rights Branch, Department of Lands and Forests, Parliament Building, Victoria, B. C.

The California reports are issued monthly February 1 through May 1 and may be secured from Division of Water Resources, California Department of Public Works, Sacremento, California.

The annual water supply forecasts of the Weather Bureau are available in monthly bulletins published from January through May. These bulletins entitled, "Water Supply Forecasts for the Western United States" may be obtained from River Forecast Center, Weather Bureau, 712 Federal Office Building, Kansas City 6, Missouri.

FEDERAL - STATE COOPERATIVE

SNOW SURVEYS and WATER SUPPLY FORECASTS

for

MONTANA AND NORTHERN WYOMING

(Upper Missouri and Upper Columbia River Basins)

Report Prepared by:

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Soil Conservation Service
U. S. Department of Agriculture
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Report issued by:

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WATER SUPPLY OUTLOOK FOR THE STATE OF MONTANA as of April 1, 1957

The April first Water Supply Outlook on the 26 * Missouri Basin is generally GOOD and slightly higher 4: * than reported on March first. 35 26 On the Yellowstone Basin the outlook is close to * * normal flow at the headwaters but dwindles to about * 86 per cent at Sidney. * * 3,6 쏬 The Columbia Basin outlook in Montana is gener-* ally GOOD on the Flathead, but only FAIR along the 2% 21 * Clark Fork to the Junction of the Flathead. 46 Irrigation Reservoir Storage is only two per-* cent below average and all should fill with the * present snow-pack this spring. *

JEFFERSON RIVER BASIN:

The April first Snow Surveys show a decided increase of snow-pack over March first measurements. This year's pack is now 97 per cent average. The April-September stream-flow into the Lima Reservoir on the Red Rock River is forecast to be 82,000 acre feet, while the average flow is 81,000 acre feet.

In the Big Hole area some of the snow courses were a bit short of normal snow water content when computed from 9 years of record and the flow of the Big Hole River is forecast to be 15 per cent below average.

The Jefferson River at Sappington is also forecast below the average April-September flow of 1,057,000 acre feet. This year's forecast is set at 879,000 acre feet for the April-September period, with 780,000 acre feet coming between April and July, both figures 83 per cent average.

MADISON RIVER:

The April first snow-pack on the Madison Basin is 120 per cent average, probably the best condition of all river basins in Montana this season. The April-September stream-flow into Hebgen Reservoir is forecast at 210,000 acre feet or 106 per cent of the average flow of 198,000 acre feet.



GALLATIN RIVER BASIN:

The snow-pack on the Gallatin River headwater areas has increased percentage-wise over the March first measurements. The water content is now 17 per cent better than last year, and is 97 per cent average. The April-September flow past Gallatin Gateway is forecast for 434,000 acre feet, which is 98 per cent of the 445,000 acre feet average flow. During April-July 374,000 acre feet of water is forecast to enter the Gallatin valley from this main stream. Smaller creeks should flow approximately 98 per cent average, but 14 per cent less than last year and about equal to 1955.

MISSOURI MAIN STEM:

Along the Main Stem of the Missouri River from Toston to Fort Peck, the outlook for this season's water supply is GOOD and is forecast within a few per cent of the average flow. The April-September flow into Canyon Ferry Reservoir is forecast at 2,035,000 acre feet; the average is 2,535,000 acre feet. From April through July we can anticipate a flow of 1,722,000 acre feet or 78 per cent average. Between Helena and Fort Benton the percentage of average flow rises to 90 and the forecast at that station is for 3,116,000 acre feet from April through September. The seasonal flow into Fort Peck Reservoir is forecast at 3,792,000 acre feet with 3,286,000 acre feet flowing from April through July.

SUN RIVER:

The snow-pack this season is slightly below the average of the past eight years of record; however, the April-September flow into Gibson Reservoir is forecast at 531,000 acre feet for the April-September flow and 485,000 acre feet flow between April and July. This volume should be sufficient to produce the 63,000 acre feet to fill the reservoir to capacity, and also supply the usual spring demand.

UPPER YELLOWSTONE RIVER:

April first Snow Surveys made by the Park Service at 13 locations, indicate a slightly better than average snow-pack this season. The stream-flow forecast on the Yellowstone at Corwin Springs for the April-September period is 1,885,000 acre feet, or 101 per cent average.

At Billings the forecast is for 96 per cent average, April-September flow, or 3,865,000 acre feet.

At Sidney the estimated April-September flow is 5,736,000 acre feet or 86 per cent average.

The combined Missouri and Yellowstone Rivers at Williston, North Dakota should produce 9,930,000 acre feet of water into Garrison Reservoir between April and September, or 85 per cent average flow. During the April-July period 8,500,000 acre feet of water should enter Garrison Reservoir. Both sets of figures are, of course, subject to regulation at Fort Peck Dam.



COLUMBIA RIVER BASIN

CLARK FORK RIVER:

The April first snow-pack on the upper portion of the Clark Fork is considerably below average in comparison to other sections of the Columbia River Basin in Montana. The stream-flow forecast for April-September above Bonner indicates only 71 per cent average flow, while both the Blackfoot and Bitterroot rivers are forecast to flow 100 and 106 per cent average, respectively.

FLATHEAD RIVER:

Snow measurements completed by the fourth of April this year, indicate that on all three forks of the Flathead River there is close to a normal snow-pack. The North Fork and Middle Fork is forecast to produce 104 and 105 per cent of average April-September flow, while the South Fork is slightly lower and forecast to flow 99 per cent average for the same period.

As the Flathead proceeds on downstream to join the Clarks Fork at Plains, the combined rivers are forecast to flow 10,488,000 acre feet at that station during the April-September period this season, or 97 per cent average.



The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature during the forecast period will be near average. Appreciable deviations from normal of precipitation and temperature during the forecast period will correspondingly modify these forecasts.

	Season	al Strea	m-Flow in	 Thousands	of Acre	Feet
UPPER MISSOURI RIVER	FORECAST	78	FORE-			15-Yr.
IN MONTANA	RUNOFF	15-Yr.			d Runoff	
		AVG.	PERIOD	1955**	1954	1938-52
DED DOGE DIVID						
RED ROCK RIVER	82	101	Ann Cont	71	58	81
Monida (near) (1)	76	100	Apr-Sept. Apr-July	66	52	76
BEAVERHEAD RIVER		100	HDI-JULY	00	72	10
Barratts (at)	178	100	Apr-Sept	119	96	177
Darraces (ac)	134	100	Apr-July	87	71	134
BIG HOLE RIVER		1				
Melrose (near)	631	85	Apr-Sept	592	541	745
(,	584	85	Apr-July	548	497	687
JEFFERSON RIVER	, , , , , , , , , , , , , , , , , , , ,					
Sappington (at)	879	83	Apr-Sept	793	533	1057
	780	83	Apr-July	725	564	938
MADISON RIVER				- 0 -		7.00
West Yellowstone (nea:		106	Apr-Sept	183	219	198
	161	107	Apr-July	136	168	151
Grayling (near) (2)	445	106	Apr-Sept	345	420	420
(Net inflow to Hebgen		106	Apr-July	274	332	333 726
McAllister (near) (3)	765	105	Apr-Sept	593 481	658 521	585
GALLATIN RIVER	617	100	Apr-July	401	257	202
Gateway (near)	434	98	Apr-Sept	350	365	445
Gateway (near)	454 374	97	Apr-July	296	310	384
Logan (at)	454	95	Apr-Sept	384	322	478
Logan (au)	389	95	Apr-July	336	261	410
Hyalite Cr.R.S.(at)	32	91	Apr-Sept	34	32	35
	27	90	Apr-July	29	27	30
MISSOURI RIVER						
Toston (at) (3)	2035	80	Apr-Sept	1730	1561	2535*
	1722	79	Apr-July	1549	1322	2191*
Fort Benton (at) (4)	3116	92	Apr-Sept	2986	2608	3381
	2627	91	Apr-July	2557	2174	2874
Virgelle (at) (4)	3810	95	Apr-Sept	3708	3395	4013
(Loma)	3252	94	Apr-July	3232	2869	3445
Zortman (near) (4)	4043	92	Apr-Sept	4264	3749	4357
Et Dools Down (1-1) (C)	3441	92	Apr-July	3698	3164	3726 4362
Ft. Peck Dam (bel)(5)	3792	87 90	Apr-Sept Apr-July	3734 3049	3315 2580	3666
Williston N. D.	3286 9930	85	Apr-Sept	9533	8964	11750
(Inflow to Garrison R.(5		83	Apr-July	8304	7343	10228
(THITTOW CO GAILTROIL W.)) 0500	0.5	whi - auth	0,004	1747	10220

^(1) Observed flow plus change in Storage in Lima Reservoir

(4) Observed flow plus change in Storage in Canyon Ferry

(*) Average is for less than 15 years of record in the 1938-52 period

^(2) Observed flow plus change in Storage in Hebgen Lake (3) Observed flow plus change in Storage in Hebgen and Ennis Lakes

⁽⁵⁾ Observed flow plus change in Storage in Canyon Ferry and Ft. Peck Reservoirs

^(**) Preliminary data furnished by U. S. Geological Survey subject to correction



	Season	al Strea	m-Flow in	Thousands	of Acre	Feet
UPPER MISSOURI RIVER IN MONTANA	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measure 1955**	d Runoff	15-Yr. _ AVG. _ 1938-52
SUN RIVER					redictions and the second	
Net inflow to Gibson						
Reservoir	531	93	Apr-Sept	517	748	570
	485	93	Apr-July	468	691	521
MARIAS RIVER					-01	
Shelby (near)	574	109	Apr-Sept	614	784	527
	528	110	Apr-July	561	715	482
Brinkman (near)	585	114	Apr-Sept	638	767	514
	539	111	Apr-July	575	700	486
MUSSELSHELL RIVER	1 0			2.6	2.7	6.8*
Delpine (near)	4.8	71	Apr-Sept	3.6	3.1	
77 7 1 / 1)	4.0	71	Apr-July	2.9	2.4	5.6%
Harlowton (at)	47	54	Apr-Sept	23.2		87.5
W2(-+)	44	54 43	Apr-July	18.9	35.0	80.9
Mosby (at)	71 66	43	Apr-Sept Apr-July	38.2 37.2	17.5	155.4
YELLOWSTONE RIVER	00	42	Apr-July	21.4	11.5	100.4
Corwin Springs (at)	1885	101	Apr-Sept	1527	2014	1870
Oor will oprings (ac)	1573	101	Apr-July	1254	1686	1556
Livingston (near)	21/12	100	Apr-Sept	1621	2232	2143
HIVINGS OOH (Hear)	1769	100	Apr-July	1298	1848	1770
Billings (at)	3865	96	Apr-Sept	2958	3642	4025
21111162 (00)	3319	96	Apr-July	2549	3129	3446
Miles City (at)	5551	87	Apr-Sept	4381	4735	6369
	4750	88	Apr-July	3816	3980	5421
Sidney (near)	5736	86	Apr-Sept	4553	4765	6648
,	4970	87	Apr-July	4082	3991	5724
SHIELDS RIVER						
Wilsall (near)	27	67	Apr-Sept	29.2	29.8	40.1
	25	67	Apr-July	27.3	27.6	37.6
Clyde Park (at)	57	54	Apr-Sept	72.1	65.0	105.6
	53	54	Apr-July	67.0	60.4	98.0
CLARK FORK RIVER			·			
Chance (at)	583	101	Apr-Sept	419	600	580
	522	101	Apr-July	306	553	517
Edgar (at)	609	99	Apr-Sept	422	619	614
	538	- 100	Apr-July	384	561	539

^(*) Average is for less than 15 years of record in the 1938-52 period (**) Preliminary data furnished by U. S. Geological Survey subject to correction



	Season	al Strea	m-Flow in	Thousands	of Acre	Feet
MISSOURI RIVER BASIN YELLOWSTONE RIVER TRIBUTARIES IN WYOMING	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD		d Runoff	15-Yr. AVG. 1938-52
NORTH POPO AGIE Milford (near)	7 5	90	Apr-Sept	and the state of t	-	83E
LITTLE POPO AGIE Lander (near)	42	79	Apr-Sept	25	39	53E
POPO AGIE RIVER Riverton (near)	260	75	Apr-Sept	171	230	345E
WIND RIVER Dubois (at) Riverton (at) (8) Boysen (below) (9)	89 360 675	87 70 72	Apr-Sept Apr-Sept Apr-Sept	66 101 401	105 287 629	102E 511 939
BIG HORN RIVER Kane (at) (8)	940	70	Apr-Sept	703	696	1344
SHOSHONE RIVER Buffalo Bill Dam(bl)(12) 780	95	Apr-Sept	534	766	823
SHELL CREEK Shell (near)	70	95	Apr-Sept	_	-	74E
CLARKS FORK Chance (at)	583	101	Apr-Sept	419	600	580

^(8) Observed flow plus Storage in Bull Lake and Pilot Butte Reservoirs
(9) Observed flow plus Storage in Boysen Reservoir
(12) Observed flow plus Storage in Buffalo Bill Reservoir
(**) Preliminary data furnished by U. S. Geological Survey subject to correction
(E) Estimated values



_	Season	al Strea	m-Flow in	Thousands	of Acre	
UPPER COLUMBIA RIVER	FORECAST	%	FORE-			15-Yr.
IN MONTANA	RUNOFF	15-Yr.	CAST		d Runoff	
		AVG.	PERIOD	1955**	1954	1938-52
CLARK FORK RIVER						
Bonner (above) (14)	549	71	Apr-Sept	739	611	771
	484	71	Apr-July	645	512	678
	396	68	Apr-June	428	428	583
Missoula (above)	1415	88	Apr-Sept	1590	1737	1602
, ,	1264	88	Apr-July	1386	1535	1429
	1069	87	Apr-June	994	1248	1229
Missoula (below)	2629	88	Apr-Sept	3094	3309	2971
	2376	88	Apr-July	2804	2979	2700
	2050	88	Apr-June	2070	2384	2335
St. Regis (at)	3554	90	Apr-Sept	4210	4868	3952
	3224	90	Apr-July	3776	4414	3582
	2784	90	Apr-June	2835	3581	3106
Plains (near) (15)	10435	97	Apr-Sept	11038	14695	10747
	9367	96	Apr-July	10018	13274	9813
	7796	93	Apr-June	7810	10423	8434
Thompson Falls (at)(15)	11096	96	Apr-Sept	11705	15370	11545
	10228	96	Apr-July	10678	13911	10604
	8814	96	Apr-June	8322	10981	9128
Cabinet Gorge (at)	11746	97	Apr-Sept	12456E	16510	12090
	10674	96	Apr-July	11319E	14685	11056
	9057	96	Apr-June	9605E	11737	9493
BLACKFOOT RIVER						
Bonner (near)	866	100	Apr-Sept	851	1126	864
	780	100	Apr-July	742	1077	778
	673	100	Apr-June	566	820	674
BITTERROOT RIVER						
Darby (near)	552	105	Apr-Sept	540	523	525
	512	105	Apr-July	500	480	487
	448	105	Apr-June	394	398	429
At Mouth (16)	7/1/1/1	106	Apr-Sept	1504	1725	1369
	1347	106	Apr-July	1418	1598	1270
	1189	108	Apr-June	1075	1396	1105

⁽¹⁴⁾ Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner (15) Observed flow plus change in Storage in Flathead Lake & Hungry Horse Res.

⁽¹⁶⁾ Difference in observed flow, Clark Fork above and below Missoula

^(**) Preliminary data furnished by U. S. Geological Survey subject to correction (E) Estimated values



	Seasona	al Strea	m-Flow in	Thousands	of Acre	Feet
UPPER COLUMBIA RIVER	FORECAST	%	FORE-	3.5	1 D . CC	15-Yr.
IN MONTANA	RUNOFF	15-Yr.	CAST		d Runoff	AVG.
		AVG.	PERIOD	1955**	1954	1938-52
FLATHEAD RIVER						
Columbia Falls (near)	1799	104	Apr-Sept	1745	2741	1729
(North Fork)	1642	104	Apr-July	1576	2444	1575
(40101110111)	1411	105	Apr-June	1232	1874	1350
Columbia Falls(at)(17)	5684	101	Apr-Sept	5708	8267	5619
0014410144 141115(40)(11)	5298	102	Apr-July	5268	7559	5214
	4644	102	Apr-June	4208	5923	4530
Polson (near) (15)	6618	102	Apr-Sept	6594	9742	6520
, , , , , ,	5929	98	Apr-July	6112	8886	6058
	4735	91	Apr-June	4858	6884	5226
MIDDLEFORK FLATHEAD RIVER						
West Glacier (near)	1753	105	Apr-Sept	1682	2446	1662
· · ·	1622	105	Apr-July	1551	2245	1540
	1370	104	Apr-June	1224	1743	1322
SOUTH FORK FLATHEAD RIVER						
Columbia Falls(near)(1	7) 2046	99	Apr-Sept	2085	2852	2058
(Net inflow to Hungry	1943	100	Apr-July	1977	2693	1950
Horse Reservoir)	1731	100	Apr-June	1630	2178	1724
SWAN RIVER				, ,		701
Big Fork (near)	699	120	Apr-Sept	570	676	584
	622	120	Apr-July	499	589	518
	518	120	Apr-June	378	413	427

⁽¹⁵⁾ Observed flow plus change in Storage in Flathead Lake & Hungry Horse Res. (17) Observed flow plus change in Storage in Hungry Horse Reservoir (***) Preliminary data furnished by U. S. Geological Survey subject to correction





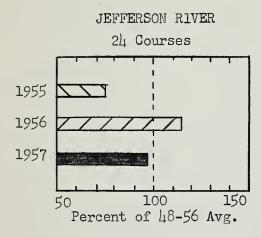
INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

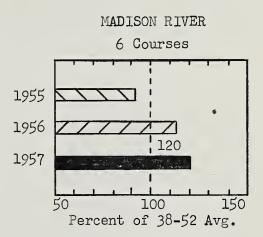
			Locat	Lion				M-named	Drainage Basin	Montana	Elev.	Locati Sec. Lat.	Tup.	Range Long.	Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Elev.	Sec.	Twp.	Range Long.	Record Began	Measuring Dates	Measured By
Drainage Busin and Course Hame	Montana Number	Elev.	Sec.	Twp.	Mange Long.	Record Began	Measuring Dates	Ву	and Course Name	Number	MISSOURI	RIVER DE	AINAGE	cont.)						MISS OUR	RIVER D	RAINAGE	(cont.)			
JEFFERGON RIVER		MIS	COUNT HIS	ER DRAIN	30A				(UPPER YELLOW									(TONGUE RIVER	cont.)							
(ROCK-BEAVER) Lakeview Ridge	HEAD) 11E3	7400	27	1hS	2W	1948	3,h,5	10	Camp Senia	9D1 10E3	7890 7750	FTF = FTF ;	8S 9S	18E 110°-30' 1LE	1937 1938 1937	1,2,3,4,5	1 6	Norse Trail Div. Lake Geneva	7E19 7E16	9200	29 7	55N 52N	90W 86W	1956 1956	2,3,4,5	1
Lakevlew Canyon Limekiln	11E/i	6930 6950	26 5	143 153	2W	1948 1948	3,4,5 3,4	10	Canyon Cooke City Crevice Mt.	10D7 10D5	7400 8400	25 22 22	95 7S	9E 12E	1935	1,2,3,4,5 3,4 3,4	2	North Tongue Sibley Lake Sucker Creek	7E15 7E11 7E12	8800 8000 9000	17 10 19	55N 55N 55N	89W 88W 87W	1956 1956 1956	2,3,4,5 2,3,4,5	1
White Pine Ridge (RORS: PRAIR		8850	18	145	9W	1948	3,4	1	Independence Lake Camp	1006 10E4 10E1	8000 7850 7300	ևև °-3և ' ևև °-5և '	404	110°-241	1937 1938	1,2,3,4,5	6	Steamboat Point Wood Rock G.S.	7E10 7E13	7500 8500	32	56N 54N	87W 88W	1956 1956	2,3,4,5 2,3,4,5 2,3,4,5	1
Bloody Dick	13010	7600	12	68	1(W	1948	3,4	1	Lupine Creek Lodgepole	9E1	8200	32	56N	106W	1940	2,3,4,5	1,4	(POWDER RIVER)	Wyoming							
Gold Stone Lemhi Paus Terrell Greek	1309	8100 7480 6650	11 9 1h	83 103 95	16W 15W 15W	1948 1948 1948	3,4 3,4 3,4	1 1	(SRILLDS RIVE		6500	10	L/N	10E	1938	3,4	ı	Crazy Woman Muddy Creek G.S.	6E2 6E1	8200 7800	6	47N 48N	817N	1956 1956	2,3,4,5	1
Trail Creek Selway Junction	13012 13011	7090 6800	15 27	103 85	15W 15W	1948 1948	3,h 3,h	1	Porcupine	1003	0500	10						Munkers Pass North Powder #2	7E8 7E36	9700 8300	11 20	48N 47N	85W 85W	1950 1956	2,3,4,5 2,3,4,5 2,3,4,5	1 1
(BIG HOLS)									LOWER YELLOWSTONE (WIND RIVER)	√yoming								Onion Gulch Soldier Park	7E27 7E5	8100 8700	31 36	48N 51N	85W 85W	1956 1950	2,3,4,5	1
Big Hole Pass Big Hole Pass-Be.	13D3 13Dh	7400 6900	28 2h	38 38	18W 18W	19կ8 19կ8	3,4 3,4	1	Big Warm	9F12 10F8	8800 9200	36 23	77N 75N	109W 110W	1955 1939	2,3,4,5	1	Sour Dough	7E6	8500 COI	17 UMBIA RI	49N VER BASTI	817.M.	1936	2,3,4,5	1
East Boundary Gibbonn Pusa	1305 1302	6700 7100	22 1 ₁	35 25	17W	19h8 193h	3,4 1,2,3,4,5	1,3	Brooks Lake #3 Burroughs Creek Dinwoodle	9P4 9F10	8800 10000	15 21	1/3N 39N	107W 105W	1948	2,3,4,5	1	KOOTENAI RIVER					-			
Jahnko Greek Miner Forko Miner Lake	1308 1306 1307	7340 7300 6720	25 2h 10	73 63 63	16W 17W 16W	1948 1948 1945	3,4 3,4,5	1	Dry Creek Dulloir	9P9 9P6	9500 8750	34 27 23	77 PT N 75 H 77 N	108W	1948 1940 1956	2,3,4,5 2,3,4,5 2,3,4,5	1	Baree Mountain Blue Bird Basin	15B1 1LA1	6000 6800	1	25N	31W	1937	4,5,5	2
(WISE RIVER)	=31	5,00				-, -,			East Pork Geyser Creek	9F13 9F7 9F8	9200 8500 9500	12 24	HIN HIN	108W 108W	1948 1948	2,3,4,5	1	Red Mountain Weasel Divide	15A1 14A7	6000 5450	24 4 8	37N 36N 37N	26W 29W 2LW	1937 1937 1955	4,5,55 3,4,5,55 2,5,5,4	1,2 1,2 1,2
Anderson Mdw. Elk Norn	1301h 13015	7000 8l ₁ 50	18 15	3S hS	12W 12W	1948 1934	3,h 3,li,5	1 3	Little Warm Sheridan R.S. #1 Sheridan R.S. #2	9F5 9F14	7500 7500	3	42H	109W 109W	1939 1955	2,3,4,5	1	FLATHEAD RIVER		,,,,,		J1		1,,,,	4,7,72	1,0
Wine River	13013	6300	15	25	12W	19118	3,4	í	T-Cross Ranch Togwotee Pass	9F3 10F9	8000 9600	29	177N 173N	107W 110W	1940 1936	2,3,4,5	11	Basin Creek Big Creek	13B14 13B3	5000 6750	11	19N	12W	1951	2,3,4,5	2
(RUBY RIVER) Cottonwood	1162	5900	2lı	105	3W	1948	2 1	1	(POPO AOLE RIV	/ER) Wyomi	Lng							Brush Creek Cattle Queen	14A4 13A1	5000 4700	6&7 13 7	30N 35N	18W 26W 17W	1941 193 7 1939	3,4,5 3,4,5 3,4,5	5 1,2 6
Cottonwood (Upper)		8h00 6950	30	103	2W 7W	1948 1945	3,4 3,4 3,4,5	1	Blue Ridge Bruce's Camp	802 805	9500 6500	23 24	31N 32N	101W	1939 1955	2,3,4,5	1	Desert Mountain Nell Roaring Div.	13A2 14A3	5600 5770	24 35	31N 32N	19W 22W	1937 1942	1,2,3,4,5 3,4,5	1,2 1,2
Tobacao Root Vigilanto	1202 1101	6900 6125	13 28	45 95	JW.	1948 1948	3,4 3,4	1	Hobb's Park Mosquito Park R.S.		9500 8500	22	2S 2S 31N	3W 3W 101W	1948 1940 1939	2,3,4,5 2,3,4,5 2,3,4,5	1	Holbrook Kishenehn Logan Creek	13B13 14A6 14A5	4530 4000 4300	18 14	37N 30N	25.M 55.M 57.M	1951 1954 1937	1,2,3,4,5	2 6 2
MADISON RIVER									Sawmill Glade South Pass St. Lawrenco	8G1 8G) 9F11	9000	13 26	30N 1N	101W	1939 1940	2,3,4,5	1	Marias Pass Quintonkon	13A5 13A13	5250 3800	34 34 11	30N 26N	14W 17W	1934	3,4,5 1,2,3,4,5 2,3,4,5	3 1,2
Hobern West Yellowstone	1185 1187	6550 6700	22 3h	113 138	3E 5E	1934 1934	1,2,3,4,5	3	Trout Creek (OWL CHEEK) Wy	902	8400	5	2S	2.M	1948	2,3,4,5	1	Spotted Bear Mt. Strawberry Lake	13B2 13A10	7000 6500	23 11	25N 28N	15W 19W	1948 1948	3,4,5 3,4,5	1,2
Horris Basin GALLATIN RIVER	10E2	7500	fifi +=115 i		110°-42'	1935	3,4	6	Beavers Mill Owl Creek	9F2 8F1	8900 8700	6 36	43N 43N	102W	1948 1948	2,3,4,5	1	Trinkus Lake Trout Lake Twin Creeks	13B1 13A12 13B11	6500 3600 3580	9 21 14	25N 28N 26N	17W 17W 16W	1948 1948 1951	3,4,5 3,4,5 2,3,4,5	2 1,2 1,2
Dovil's Slide	100%	b100	14	58	6E	1935	2,3,4,5	2,1	(GREYBULL RIVE			,,	45		-, -,	-,,,,,,		Upper Nolland Lk.	1385	7000	28	2 ON	16W	1948	3,4,5	2
Mood Maadow Mystle Laka Naw World	1003 1002 1001	6600 6600 6700	30 21 ₁	իՑ 3Տ 3Տ	68 74 6E	1934 1935 1939	2,3,4,5 2,3,4 1,2,3,4,5	2,1 7	Timber Creck #1 Timber Creck #2	9E2 9E3	8800 8800	25 - 25	47N 47N	103W 103W	1948 1955	2,3,4,5	1	CLARK FORK Baree Mountain	1581	6000	1	25N	31W	1937	4,5,5	2
21-Mile	1186	7150	1	118	SE.	1934	1,2,3,4,5	3	Wood River #1 Wood River #2	9F1 9F15	8000	28 28	46N	103W 103W	1939 1956	2,3,4,5 2,3,4,5 2,3,4,5	1	Coyote Hill El Dorado Mine	13B10 13C9	4200 7800	12 23	18N 8N	16W 12W	1952 1946	1,2,3,4,5	2
Chesaman Renervoir		6200	2	8n	5W	1936	1,2,3,4,5	3	(SNOSHONE RIVE	R) Wyomin	3							Freezeout Summit Gold Creek Lk.	15B10 13C10	6800 7200	21	15N 8N	27W 12W 27W	1951 1946 1937	4,5	2 1 2
Crystal Lake Grasshopper	901 1002	6100 7000	19 19	12N 9N	18E 8E	19h1 1938	3,4 3,4	1,2	East Entrance Sylvan Pass	10E6 10E5	7000 7100	17 12	52N 52N	109W 110W	1948 1936	1,2,3,4,5	6	Noodoo Summit Intergaard Lubrecht Forest #6	1501 1304 1308	6200 6450 5400	9&16 11	71'N 71'N	13W 15W	1939 1951	4,5 2,3,4 1,2,3,4,5	Ĺ 12
Kinga Bill Picnic Oronisla Pipantona Pana	1001 1206 1201	7950 6500 7200	35 10 11	13N 5N 1N	7E 6W 7W	1937 1940 1938	3,4,5 2,3,4 2,3,4,5	3 4	(NOWOOU CREEK)	Wyoming						_,,,,,,		North Fork Jocko Picnic Grounds	13B7 1206	6330 6500	3 10	17N 5N	17W 6W	1941	3,4,5 2,3,4	5
Stemple Pages Ton Mile Creek L	1202 1202	6900 6250	16 13	13N 8N	7W 6W	1934 1935	3,4,5	3	Cold Springs Camp Medicine Lodge Lks	7E25 7E24	8700 9500	1 7	50N 51N	88w 87w	1956 1956	2,3,4,5	1	Pipestone Pass Slide Rock Mt. Southern Cross	1302 1305	7200 7100 6500	11 26 8	1N 10N 5N	7W 16W 13W	1938 1937 1939	2,3,4,5 4 2,3,4	1
Ten Mile Greek M Ten Mile Greek D	120) 120l _i	6800 8000	13 19	8n 8n	6W 5W	1934 1935	1,2,3,4,5	3	Munkers Pass North Powler	7E8 7E36	9700 8300	11	48N 47N	85W 85W	1950 1956	2,3,4,5	1	Stemple Pass Storm Lake	1201	6900 7780	16 19	13N 4N	7W 13W	1934 1939	3,4,5	3
(TETOH RIVER)									Onion Gulch Tensleep Lake Tensleep R.S.	7E27 7E26 7E7	8100 9075	31 33	48N 50N	85W 86W	1956 1956	2,3,4,5	1	Stuart Mill Stuart Mountain	1306 1301	6500 7400	19	5N 14N	13W 18W	1939 1936	2,3,4 4	1,2
Freight Crock Waldron Crock Wast Fork	12A1 12B2 12B1	6000 5600 6000	13 16 6	26N 25N 25N	10W 9W 9W	1948 1948	3,4 3,4	1	Tyrell R.S.	7E35	8300 8300	30 30	49N	86W	1935 1956	2,3,4,5	1 1	TV Mountain BITTERROOT RIVER	11/BI	6800	33	15N	19W	1956	1,2,3,4,5	1
(SUN RIVER)	20.00			2.211	, v m	1948	3,4	1	(SHELL CREEK) Bald Mountain									East Fork R.S.	1301	5400	16	2 N	17W	1937	Ħ	ı
Benchmark Gabin Greek	1286 1286	5500 5400	9 33	20N 23N	10W 10W	1948	3,4	1	Beaver-Tongue Div. Some-Spring Div.	7E18	9600 9200 9200	33 12	56N 55N	91W 91W	1956 1956	2,3,4,5	1	Cibbons Pass Lolo Pass	13D2 14C5	7100 5230	16 2h	2S 38N 11N	19W 15E 24W	1934 1956 1937	1,2,3,4,5 3,4,5,5	3,1
S-Bull Oaton Park	12B9 12B9	5600 5300	36 31	20N 2hN	10W 10W	1949 1948 1949	3,4 3,4 3,4	1,2 1,2 1,2	Granite Creek Camp Oranite Pass	7E22 7E17	7800 8950	32 15 19	55n 53n 54n	89W 89W 88W	1956 1956 1956	2,3,4,5 2,3,4,5 2,3,4,5	1	Mud Creek Pasture Nez Perce Camp Powell R.S.	1702 1703 1701	4500 5580 4230	19&20 33		23W 14E	1937 1956	3,4,5 3,4,5,5	1 2
Oost Mountain Wrong Ridge Wrong Creek	12117 1213 1214	7000 6800	20 17 32	22N 25N	10W 10W	193h 1949	3,4 3,4	3,2	Horse-Trail Div. Ranger Creek Shell Creek	7519 764 7623	9200 8800	29 32	55N 53N	90W 88W	1956 1935	2,3,4,5	1	Skalkaho Summit	1303	7259	30	6N	17W	1937	4	1
	(MARTAS MANUAL) (PORCUPINE CREEK) WARRING																									
Marias Pass	13A5	5250	34	30N	14W	1936	1,2,3,4,5	3	Five Spgs. Falls Medicine Wheel	7E31	7500	19	56N	92 W	1956	2,3,4.5	1	Josephine Upper	13A15	6000	48*-50	1	13*-421	1956	5	3,9
(MILK RIVER)									(TONGUE RIVER)	7E30	9000	24	56N	92W	1956	2,3,4,5	1	Josephine Lower #9 Mount Allen #7	13A14 13A7	4900 7000	480-47	1	13°-40'	1956 1922	5	3,9
Rocky Roy	9A1	5200	15	28N	16E	1941	3,4	7	Beaver Tongue Div.	. 7E20	9200	12	55N	91W	1956	2 2 1. 5	1	Piegan Pass #4 Piegan #6 Ptarmigan #8	13A4 13A6 13A8	5000 6500 5800	148°-1451	1	13°-42° 13°-42°	1922	5 5 5	3,9 3,9 3,9
(MUSSELSHELL RI Grasshopper	1002	7000	19	9N	8E.	1938	2.1		Big Goose #2 Bone-Spring Div.	7E2 7E32 7E18	7700 7700	4	53N 53N	86M 81M	1935 1955	2,3,4,5 2,3,4,5 2,3,4,5	1	1					2,7			
.,				, , ,		2,50	3 _p li	2	Burgess R.S. #2	7E1 7b33	9200 7900 7900	32 36 36	55N 56N 56N	89W 89W	1956 1950	2,3,4,5 2,3,4,5	1	a. Numerals 1,2,3	,4 and 5 1	refer to	January	l, Febru	ary 1, h	darch 1,	April 1 and M	ay 1.
									Dome Lake #1 Dome Lake #2 Cloom Creek	7E3 7E34 7E14	8800 8800	11 11	56N 53N 53N	89W 87W 87W	1955 1950 1950	2,3,4,5 2,3,4,5 2,3,4,5	1	b. Numerals refer	to Agency	y that s	cures th	ne snow s	urvey as	s follows		
									Granite Pass	7E17	9300 8 9 50	32 19	55N 54N	87W 86W	1956 1956	2,3,4,5 2,3,4,5 2,3,4,5	1	 Soil Conservat U. S. Forest S 		ce			ntana E	xperiment ozeman	Station	
																		3. U.S. Geologic 4. Montana Power	al Survey Company			9. Do	ominion (Water & P	ower Bureau dlife Service	
														8				5. U. S. Indian S 6. National Park							clamation stry School	

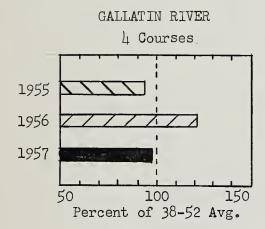
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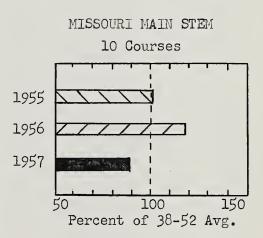
SUMMARY OF SNOW SURVEY DATA BY TRIBUTARY WATERSHEDS APRIL 1, 1957

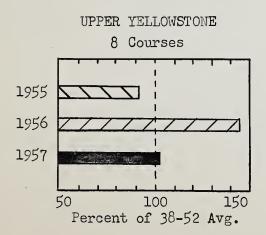
Missouri Basin

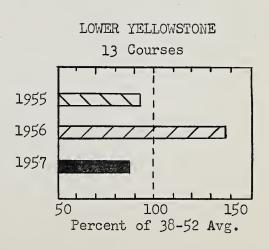














					SNOW CO				
MISSOURI BASIN				1957		1	st Red		Total
DRAINAGE BASIN			Date	Snow	Water	Wat	er Cor		Years
AND			of	Depth	Content			15-Year	of
SNOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1956	1955	Average	Record
								1938-52	
	The same of the sa	The second secon	n permentin delik per menterilian saku deler i filik						
JEFFERSON RIVER									
(Rock-Beaverhead)									
Lakeview Ridge	11E3	7400	4/1	45	12.2	9.2	7.6	9.8#	9
Lakeview Canyon	11E4	6930	4/1	47	13.4	11.3	4.9	10.6#	
Limekiln	12E2	6950	3/12	Ö	0	1.2	1.5	1.8#	9
White Pine Ridge	12E1	8850	3/12	20	3.7	5.8	5.0	6.7#	9
₩Kilgore	11E12	6200	4/2	32	10.1	7.4	7.5	11.0	19
**Camp Creek	12E3	6800	٠, -	<i></i>		8.7	7.7	10.0	21
**Blue Ledge Mine	11E11	6700	4/1	52	16.0	15.4	17.7	16.6	18
(Horse Prairie)									
Bloody Dick	13 D 10	7600	3/17	52	13.7	15.8	7.6	12.5#	9
Goldstone	13 D 9	8100	3/17	62	17.1	21.3	10.8	16.6#	9
Lemhi Pass	13E1	7400	3/14	43	9.6	11.6	6.9	10.1#	
Selway Junction	13011	6800	3/13	45	10.4	12.1	5.8	9.6#	9
Terrell Creek	13D12	6650	3/13	28	6.i	8.3	3.0	5.0#	9
Trail Creek	13E2	7090	3/14	41	9.5	12.3	7.1	9.4#	9
(Big Hole)									
Big Hole Pass	13D3	7440	3/18	56	16.8	20.7	12.9	19.3#	9
Big Hole Pass bel.	13D4	6900	3/18	54	15.6	17.8	13.3	16.0#	9
East Boundary	13D5	6700	3/18	33	8.6	11.4	7.4	9.6#	9
Gibbons Pass	13D2	7100	3/29	71	24.7	31.0	21.4		18
Jahnke Creek	13D8	7340	3/17	52	14.0	15.2	7.8	12.4#	9
Miner Forks	13D6	7300	3/16	53	14.2	18.0	10.6	13.8#	9
Miner Lake	13D7	6720	3/16	42	9:6	12:4	7.5	9.0#	12
**Moose Creek	13D16	6200	4/1	50	16.4	21.9	14.9	16.2	20
(Wise River)									
Anderson Meadow	13D14	7000	3/19	31	8.6	11.0	8.3	9.2#	9
Elk Horn	13D15	8450	4/2	36	10.5	14.0	8.5		22
Wise River	13D13	6300	3/19	22	6.1	6.8	5.0	5.9#	9
(Ruby River)			,						
Flashlight	12D3	6950	3/20	20	5.0	5.2	8.1	6.l*	12
					1	1			

#Average for period of record.

*Average is for less than 15 years of record in the 1938-52 period.

**Adjacent Basin.



MISSOURI BASIN DRAINAGE BASIN DRAINAGE BASIN DRAINAGE BASIN DRAINAGE BASIN Date Show Water Depth Content 15-Year of Depth										
DRAINAGE BASIN AND Survey Content Co						SNOW CO				
No. Elev. Survey Content 1956 1955 1958 1978 2078 19										
MADISON RIVER Hebgen							Wat	er Cor		
MADISON RIVER Hebgen 11E5 6550 3/27 17 11.3 13.1 9.5 12.2 21 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 W. Yellowstone 11E7 6700 3/28 17 11.2 11.1 10.7 11.6 20 20 20 20 20 20 20 2		Mo	Flore				1056	וחבב	1	í
Hebgen	DIVOW COURSE	140.	DIEA.	burvey	(111.)	(111.)	1900	エラフフ		
Hebgen 11E5 6550 3/27 47 14.3 13.4 9.5 12.2 21 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 W. Yellowstone 11E7 6700 3/28 17 14.2 14.1 10.7 11.6 20 ***Bigi Springs 11E9 6500 3/28 71 26.6 22.7 21.9 21.3 21 ***Island Park 11E10 3600 3/28 58 19.4 17.0 16.2 16.4 21 ***Valley View 11E8 6500 3/28 59 18.1 15.9 13.2 15.3 21 Norris Basin 10E2 7500 3/26 71 26.6 12.0 9.5 9.1* 18 GALLATIN RIVER Devil's Slide 10D4 8100 3/30 62 19.1 25.0 17.8 20.7* 18 Hood Meadow 10D3 6600 3/29 28 7.8 9.7 9.4 9.3* 18 Mystic Lake 10D2 6600 4/1 22E 5.5E 8.9 8.8 7.6* 20 New World 10D1 6700 4/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 9C1 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Pionic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 1.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Temmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Temmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Temmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Temmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Temmile, Upper 12C4 8000 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0#									-/20 /2	
21-Mile	MADISON RIVER								manyani da	
21-Mile	Hebgen	1.1.E5	6550	3/27	117	1/1.3	13./	9.5	12.2	21
W. Yellowstone 11E7 6700 3/28 47 14.2 14.1 10.7 11.6 20 20 22 21.9 21.3 21 21.3 21 22 21.3 21 22 21.3 21 22 21.3 21 22 21.3 21 22 22 21.3 21 22 21.3 21 22 21.3 21 22 21.3 21 22 21.3 21 22 22 21.3 21 22 21.3 21 22 23 21 24 25 25 25 25 25 25 25									i .	1
**Big Springs	W. Yellowstone	11E7		3/28		14.2			11.6	20
**Valley View 11E8 6500 3/28 59 18.1 15.9 13.2 15.3 21 Norris Basin 10E2 7500 3/26 71 26.6 12.0 9.5 9.1* 18 GALLATIN RIVER Devil's Slide 10D4 8100 3/30 62 19.1 25.0 17.8 20.7* 18 Hood Meadow 10D3 6600 3/29 28 7.8 9.7 9.4 9.3* 18 Mystic Lake 10D2 6600 4/1 22E 5.5E 8.9 8.8 7.6* 20 New World 10D1 6700 4/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 9C1 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Lower 12C2 6250 3/30 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12B1 6000 3/28 22 6.8 8.0 8.0 8.6 # 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0 # 9 (Sun River)					71	26.6	22.7	21.9	21.3	21
Norris Basin 10E2 7500 3/26 71 26.6 12.0 9.5 9.1* 18								1		
Devil's Slide					59					
Devil's Slide 10D4 8100 3/30 62 19.1 25.0 17.8 20.7* 18 Hood Meadow 10D3 6600 3/29 28 7.8 9.7 9.4 9.3* 18 Mystic Lake 10D2 6600 4/1 22E 5.5E 8.9 8.8 7.6* 20 New World 10D1 6700 4/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 901 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 1306 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 38 11.4 15.9 13.0 13.5 21 Tenmile, Upper 12C4 8000 3/28 38 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/28 22 6.8 8.0 8.0 8.6 # 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Norris Basin	10E2	7500	3/26	71	26.6	12.0	9.5	9.1*	18
Hood Meadow 10D3 6600 3/29 28 7.8 9.7 9.4 9.3* 18 Mystic Lake 10D2 6600 4/1 22E 5.5E 8.9 8.8 7.6* 20 New World 10D1 6700 4/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 9C1 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	GALLATIN RIVER									
Hood Meadow 10D3 6600 3/29 28 7.8 9.7 9.4 9.3* 18 Mystic Lake 10D2 6600 4/1 22E 5.5E 8.9 8.8 7.6* 20 New World 10D1 6700 4/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 9C1 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Devil's Slide	10DJr	8100	3/30	62	19.1	25.0	17.8	20.7*	18
Mystic Lake 10D2 6600 4/1 22E 5.5E 8.9 8.8 7.6* 20 New World 10D1 6700 4/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 9C1 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone P		•					Ē.			
New World 10D1 6700 14/1 33 7.9 11.4 11.2 10.2* 18 21-Mile 11E6 7150 3/28 65 21.0 23.9 15.2 17.2 20 MISSOURI RIVER MAIN STEM Chessman Res. 12C5 6200 14/28 9 2.5 5.6 5.8 14.7 21 Crystal Lake 9C1 6100 14/1 37 9.0 9.9 9.1 12.1* 16 Grasshopper 10C2 7000 14/1 17 2.9 6.1 5.2 5.3 19 Kings Hill 10C1 7950 3/30 12 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 14/1 18 3.9 5.7 14.1 14.1* 11 Pipestone Pass 12D1 7200 14/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.1 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.1 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C1 8000 3/29 36 9.2 11.1 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 14 14.1 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.1 17.0 20.2 20.0# 9	Mystic Lake	10D2	6600	4/1						20
MISSOURI RIVER MAIN STEM Chessman Res. 1205 6200 14/28 9 2.5 5.6 5.8 14.7 21 Crystal Lake 901 6100 14/1 37 9.0 9.9 9.4 12.1 16 Grasshopper 1002 7000 14/1 17 2.9 6.1 5.2 5.3 19 Kings Hill 1001 7950 3/30 12 11.9 12.2 11.6 13.3 18 Picnic Grounds 1306 6500 14/1 18 3.9 5.7 14.1 14.1 11 Pipestone Pass 12D1 7200 14/2 29 6.5 5.8 6.0 5.7 18 Stemple Pass 1201 6900 3/29 36 9.2 11.1 9.2 9.8 18 Tenmile, Lower 1202 6250 3/31 19 5.0 7.1 7.0 6.5 21 Tenmile, Middle 1203 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 1201 8000 3/30 38 11.1 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/28 22 6.8 8.0 8.0 8.6 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6 9 West Fork 12B1 6000 3/28 38 12.1 17.0 20.2 20.0 9	New World	10D1	6700		33		11.4	11.2	10.2%	18
Chessman Res. 12C5 6200 4/28 9 2.5 5.6 5.8 4.7 21 Crystal Lake 9C1 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/28 22 6.8 8.0 8.0 8.6# 9 Waldron Creek 12B2 5600 3/28 32 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	21-Mile	11E6	7150	3/28	65	21.0	23.9	15.2	17.2	20
Crystal Lake 901 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 1002 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 1001 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 1306 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 1201 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 1202 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 1203 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 1204 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/28 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	MISSOURI RIVER MA	AIN STEM	[
Crystal Lake 901 6100 4/1 37 9.0 9.9 9.4 12.4* 16 Grasshopper 1002 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 1001 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 1306 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 1201 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 1202 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 1203 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 1204 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/28 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Chessman Res.	1205	6200	11/28	9	2.5	5.6	5.8	1.7	21
Grasshopper 10C2 7000 4/1 17 2.9 6.4 5.2 5.3 19 Kings Hill 10C1 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 13C6 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)										
Kings Hill 1001 7950 3/30 42 11.9 12.2 11.6 13.3* 18 Picnic Grounds 1306 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)										
Picnic Grounds 1306 6500 4/1 18 3.9 5.7 4.1 4.4* 11 Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6 8.6 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)										
Pipestone Pass 12D1 7200 4/2 29 6.5 5.8 6.0 5.7* 18 Stemple Pass 12C1 6900 3/29 36 9.2 11.4 9.2 9.8* 18 Tenmile, Lower 12C2 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)		1306								
Tenmile, Lower 1202 6250 3/31 19 5.0 7.4 7.0 6.5 21 Tenmile, Middle 1203 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 1204 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 444 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Pipestone Pass	12D1	7200	4/2	29		5.8	6.0		18
Tenmile, Middle 12C3 6800 3/30 36 8.8 12.1 10.1 10.5 21 Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Stemple Pass				36	9.2	11.4	9.2	9.8%	18
Tenmile, Upper 12C4 8000 3/30 38 11.4 15.9 13.0 13.5 21 (Teton River) Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Tenmile, Lower			3/31			7.4	7.0	6.5	
(Teton River) Fright Creek 12Al 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12Bl 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	Tenmile, Middle	_		3/30						
Fright Creek 12A1 6000 3/29 44 14.4 17.9 12.6 19.0# 9 Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)		12C4	8000	3/30	38	11.4	15.9	13.0	13.5	21
Waldron Creek 12B2 5600 3/28 22 6.8 8.0 8.0 8.6# 9 West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)	•	1241	6000	3/20),),	71, 1,	17.0	126	70 ∩#	0
West Fork 12B1 6000 3/28 38 12.4 17.0 20.2 20.0# 9 (Sun River)										9
(Sun River)										
Benchmark 12B8 5500 3/30 19 6.0 - 11.8 11.8# 8 Cabin Creek 12B6 5400 4/1 18 3.8 6.6 7.8 8.0# 8 5-Bull 12B9 5600 3/30 15 4.2 - 7.9 9.0# 8				·						
Cabin Creek 1286 5400 4/1 18 3.8 6.6 7.8 8.0# 8 5-Bull 1289 5600 3/30 15 4.2 - 7.9 9.0# 8										8
5-Bull 12B9 5600 3/30 15 4.2 - 7.9 9.0# 8							6.6			8
Cot of Powle 10DE F200 1.77 21. 9 0 1170 1 1 2 0 0 11					15					8
	Gates Park	12B5	5300	4/1	34	8.2	12.4	8.4	12.2#	
Goat Mountain 12B7 7000 3/27 40 10.2 14.1 11.3 10.3* 18										
Wrong Creek 12B4 5700 3/29 43 13.8 17.1 14.3 17.1# 8 Wrong Ridge 13B3 6800 3/30 57 20.8 26.7 18.6 24.7# 8		•								
Wrong Ridge 13B3 6800 3/30 57 20.8 26.7 18.6 24.7# 8	wrong klage	T3B3	0000	3/30	21	20.0	20.1	TO*0	24. (#	0

[#]Average for period of record. - E Estimated Value *Average is for less than 15 years of record in the 1938-52 period.

^{**}Adjacent Basin.



					SNOW CO	VER ME	ASTIRE	TENTS	
MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	1957 Snow Depth (In.)	Water Content	Pa Wat	st Red er Con	cord	Total Years of Record
MISSOURI RIVER M	AIN STE	(Cont'd)							
(Marias River) Marias Pass	13A5	5250	3/29	54	18.4	23.4	18.6	17.6	21
(Milk River) Rocky Boy	9 A l	5200	4/1	21	4.6	4.1	5.4	5.4	15
(Musselshell) Grasshopper	1002	7000	L;/l	17	2.9	6.4	5.2	5.3	19
UPPER YELLOWSTON	E								
Camp Senia Canyon Cooke City Crevice Mt. Independence Lake Camp Lodgepole, Wyo. Lupine **Astor Creek **Thumb Divide (Shields River)	9D1 10E3 10D7 10D5 10D6 10E4 9E1 10E1 10E8	7890 7750 7400 8400 8000 7850 8200 7300 7700 7900	3/27 l4/1 3/31 l4/1 3/28 l4/1 l4/1 3/25 3/28 3/28	16. 54 33 29 56 40 44 44 96 74	3.8 17.1 9.9 7.9 17.0 10.5 12.3 11.4 35.3 25.3	9.0 20.9 11.7 11.9 24.3 18.2 16.8 14.0 48.7 35.5	5.0 14.1 6.8 6.7 8.8 10.4 12.2 30.6 20.8	13.2* 8.3 10.4 18.1* 11.0	20 22 14 19 18 18 38
Porcupine	1003	6500	4/3	27	6.3	8.5	6.0	6.3*	18

[#]Average for period of record. *Average is for less than 15 years of record in the 1938-52 period. ***Adjacent Basin.



					SNOW CO	VER ME	ASUREI	MENTS	
MISSOURI BASIN			D 1 -	1957		Pa	st Red	cord	Total
DRAINAGE BASIN AND			Date of	Snow Depth	Water Content		er Cor	15-Year	Years or
SNOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1956	1955	Average 1938-52	Record
								1750 72	
LOWER YELLOWSTONE	(Wind	River)							
Big Warm	9F12	8800	3/23	36	9.0	14.3	8.8	-	2
Brooks Lake Burroughs Creek	10F8 9F4	9200 8800	3/22 3/24	69 41	22.2 12.1	33.9	22.1	26.1	20 8
Dinwoodie	9F10	10000	3/25	40	10.9	18.1	10.5	15.2#	7
Dry Creek DuNoir	9F9 9F6	9500 8750	3/25 3/23	24 29	5.3 7.2	9.9 13.2	4.8	8.0# 9.9*	7 16
Geyser Creek Little Warm	9F7	8500	3/23	29	7.2	11.4	7.6	9.9#	8 8
Sheridan R.S. #2	9F8 9F14	9500 7500	3/23 3/22	59 28	17.1 7.0	25.6	14.4	20.2#	2
T-Cross Ranch Togwotee Pass	9F3 10F9	8000 9600	3/24 3/29	24 81	6.0 27.9	10.2	5.9 27.7	7.5* 29.1	16 20
					2107	4107	21.1	27.1	20
LOWER YELLOWSTONE	(Popo	Agie Ri	ver)						
Blue Ridge	8G2	9500	3/30	34	9.0	17.1	12.4	12.4%	17
Bruce's Camp Hobb's Park	8G5 9G3	6500 10000	4/1 3/28	NR 53	NR 16.4	23.9	2.1	21.4#	2 8
Mosquito Park R.S		9500	3/28	26	6.6	9.9	7.7	9.5*	12
Sawmill Glade South Pass	8G1 8G3	8500 9000	3/30 3/30	21 44	5.2 13.7	7.8	7.9	8.0% 14.6%	17 17
St. Lawrence R.S. Trout Creek	9F11 9G2	9000 8400	3/26 3/28	23 17	5.5 4.3	9.9	6.6 5.9	8.1* 7.0#	13 8
		· · · · · · · · · · · · · · · · · · ·		<u> </u>	4•7	4.0	2.7	1 • 0//	
LOWER YELLOWSTONE	(OMT (Creek)							
Beavers Mill Owl Creek	9F2 8F1	8900 8700	3/28 3/28	23 17	6.2 3.9	NR. 5.8	4.9 5.5	7.3# 6.4#	6 8
				<u> </u>	2.7	5.0	7•7	0.47	
LOWER YELLOWSTONE	(Grey	bull Riv	er)			-			
Timber Creek #2	9E3	8800	3/29	12	2.7	2.2	3.1	3.6	2
Wood River #2	9F15	8000	3/30	20	4.7	5.8	4.1	-	2
LOWER YELLOWSTONE	(Shos	hone Riv	er)						
East Entrance	10E6	7000	3/30	41	11.5	16.3	9.8	13.2#	8
Sylvan Pass	10E5	7100	3/30	51	14.9	20.5	11.4	15.0%	19

^{*}Average is for less than 15 years of record in the 1938-52 period #Average for period of record



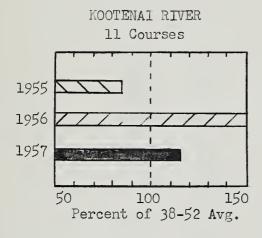
SNOW COVER MEASUREMENTS									
MISSOURI BASIN			1957		Past Record			Total	
DRAINAGE BASIN AND			Date of	Snow	Water Content	Water Content		Years of	
SNOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1956	1955	Average 1938-52	Record
LOWER YELLOWSTONE (Nowood Creek)									
Cold Springs Camp Medicine Lodge Lks Munkers Pass(Muddy Onion Gulch Tensleep Lake Tensleep R.S.		8700 9500 9700 8100 9075 8300	14/2 14/2 14/3 14/4 14/14	26 38 40 39 40 28	6.1 10.5 9.0 8.2 10.0 7.5	8.0 12.9 11.8 10.5 13.0 7.8	8.0	- 9.2# - 7.2	1 2 1 1 20
LOWER YELLOWSTONE (Shell Creek)									
Bald Mountain Beaver-Tongue Div. Bone-Spring Div. Granite Pass Ranger Creek Shell Creek	7E21 7E20 7E18 7E17 7E4 7E23	9600 9200 9200 8950 8800 9600	3/26 3/26 3/28 3/28 4/5 4/5	60 56 59 59 33 13		19.8 19.9 18.1 17.7 10.0 16.3	8.4	8.4 - - -	1 1 1 19 1
LOWER YELLOWSTONE (Porcupine Cr.)									
Five Springs Falls Medicine Wheel	7E31 7E30	7500 9000	4/1 3/27	19 49	4.4 12.7	6.8	-	- -	1
LOWER YELLOWSTONE (Tongue River)									
Beaver-Tongue Div. Big Goose #1 Big Goose #2 Bone-Spring Div. Burgess R.S. #1 Burgess R.S. #2 Dome Lake #1 Dome Lake #2 Gloom Creek Granite Pass North Tongue Sibley Lake Sucker Creek Steamboat Point Wood Rock G.S.	7E20 7E2 7E32 7E18 7E1 7E33 7E34 7E14 7E17 7E15 7E11 7E12 7E10 7E13	9200 7700 7700 9200 7900 8800 8800 9300 8950 8800 9000 7500 8500	3/26 3/31 3/28 3/27 3/27 3/31 3/29 3/28 3/27 3/30 3/29 3/28	56 17 30 59 24 28 35 37 42 59 27 32 40 21 40	10.5 14.6 6.0 7.2 8.8	19.9 4.4 9.4 18.1 7.2 8.2 9.8 12.9 13.7 17.7 13.9 10.5 13.1 8.5 12.1	NR NR NR NR -	- 4.1 - 13.7# - 8.0# - - - -	1 20 1 5 1 1 1 1
LOWER YELLOWSTONE Muddy Creek G.S. Munkers Pass Onion Gulch Soldier Park Sour Dough	(Powde 7E28 7E8 7E27 7E5 7E6	r River) 7800 9700 8100 8700 8500	14/3 14/3 14/3 14/2 14/4	19 40 39 24 33	3.5 9.0 8.2 4.0 6.7	5.5 11.8 10.5 9.6 11.8	- 8.0 - NR 7.7	- 9.2# - 5.5# 6.1	1 6 1 5 20

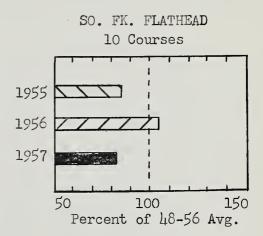
#Average for period of record

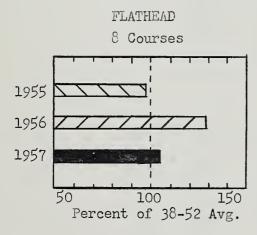


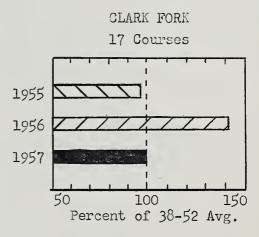
SUMMARY OF SNOW SURVEY DATA BY TRIBUTARY WATERSHEDS APRIL 1, 1957

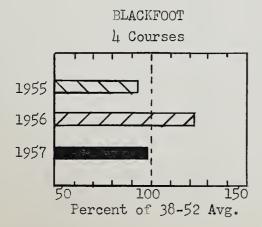
Columbia Basin .

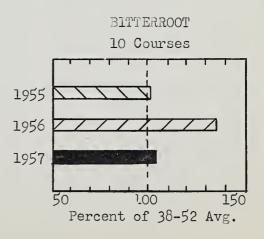














	SNOW COVER MEASUREMENTS								
COLUMBIA BASIN				Pa	Total				
DRAINAGE BASIN			Date	Snow	Water		er Cor		Years of
AND SNOW COURSE	No.	Elev.	of Survey		Content (In.)	1956	1955	15-Year Average 1938-52	
KOOTENAI RIVER (above Li	bby, Mor	ntana)						
Baree Mt. Blue Bird Brush Creek Ferguson Fernie New Fernie Glacier Gray Creek Kimberley Marble Canyon Nelson Creek Old Glory Red Mountain Sinclair Pass Smith Creek Sullivan Mine Upper Elk River Weasel Divide	15Bl lliAl can	6000 6800 5000 3000 3500 4100 4100 5100 3800 5000 3050 7000 6000 4500 4800 5100 4400 5450	4/2 4/1 3/28 3/31 4/1 4/1 3/27 3/30 4/1 3/28 4/1 3/28 3/28 3/30 4/1	114 97 44 50 25 39 66 28 53 47 75 58 28 121 49 26 90	43.2 37.4 13.3 23.6 8.3 13.3 19.9 6.3 14.8 17.8 24.7 19.6 7.3 48.5 9.0 35.4	61.4 51.2 19.0 29.5 10.6 17.5 29.3 21.6 12.2 14.5 24.5 	41.0 33.9 13.1 19.8 11.1 16.3 18.5 6.2 12.1 15.1 15.9 44.3 10.5 8.4 29.1	36.2* 11.7* 19.5 7.6 15.6* 22.8* 21.2* 5.5 14.8* 13.8	12 19 19 6 16 19 10 19 10 19
Basin Creek Big Creek Big Creek Blue Bird Brush Creek Cattle Queen Coyote Hill Desert Mountain Hell Roaring Div. Holbrook Kishenehn Logan Creek Marias Pass Mineral Creek N.Fork Jocko Quintonkon Spotted Bear Mt. Strawberry Lake Trinkus Lake Trout Lake Twin Creeks Upper Holland Weasel Divide	13B13 14A2 14A5 13A5 13B7 13A13	5000 6750 6800 5000 4700 4200 5600 7000 5700 4300 4300 4300 5250 6330 3800 7000 6500 36500 36500 3580 7000 5450	4/1 4/1 4/1 3/28 4/1 3/29 3/27 3/27 3/28 3/29 3/28 3/30 4/3 4/1 4/1 4/1 4/1	20 111 97 44 78 30 49 40 80 22 33 35 54 35 102 30 41 103 96 41 26 86 90	5.8 44.5 37.4 13.3 29.2 16.2 10.2 34.0 7.7 10.3 18.4 9.3 10.1 13.4 9.5 14.2 8.5 31.5 8.2 8.5 31.5 8.2 8.3 14.3 15.4 15.5 16.	12.3 50.4 51.2 19.0 38.2 12.0 18.7 14.1 34.4 10.3 11.4 12.4 23.4 -50.5 15.9 16.9 16.0 16.0 16.0 10.4 10.9	11.0 14.3 11.3	11.7* 30.6* 11.2* 15.4* 10.3* 30.0* 10.9# 8.5* 8.0* 17.6	6 16 18 12 18 10 17 18 15 6 4 18 21 0 16 6 9 9 9 6 8 18

#Average for period of record. *Average is for less than 15 years of record in the 1938-52 period.



			······						
COLUMBIA BASIN			SNOW COVER MEASUREMENTS 1957 Past Record Total						
DRAINAGE BASIN			Date	Snow	Water	Water Content			Years
AND			of		Content			15-Year	of
SNOW COURSE	No.	Elev.	Survey	(In.)	(ln.)	1956	1955		Record
								1938-52	
CLARK FORK									
					. 1				The state of the s
Fred Burr Pass	13011	8000	3/23	70	21.4	-	-	-	0
Baree Creek Baree Mt.	15B11 15B1	5500 6000	4/2 4/2	110 114	50.4 43.2	61.4	41.0	40.4	0 18
Coyote Hill	13B10	4200	4/2	30	8.2	12.0	11.0	11.2*	
Chessman Res.	1205	6200	4/28	9	2.5	5.6	5.8	4.7	21
East Fork R.S.	13D1	5400	4/2	19	7.1	8.6	8.1	5.5*	18
Eldorado Mine	1309	7800	3/26	62	18.6	24.6	19.0	23.4#	5 3
Fish Lake, Ida.	21B4	5000	3/28	107	40.2	_	35.3	_	3
Freezeout Summit		7000	3/28	92	30.5	56.8	33.8	32.0	20
Gold Creek Lake Hoodoo Creek	13C10 15C1	7200 6200	3/26 3/28	50 127	14.6 50.4	18.5	13.6	18.4# 47.3	ل 20
Intergaard	1304	6450	4/1	42	8.2	8.1	6.8	8.2*	
Lubrecht For.#6	13C8	5400	3/2	12	3.8	3.8	3.6	3.7#	
North Fork Jocko		6330	3/30	102	42.1	50.5	40.9	40.7%	
Picnic Grounds	1206	6500	4/1	18	3.9	5.7	4.1	4.4*	
Pipestone Pass	12D1	7200	4/2	29	6.5	5.8	6.0	5.7*	
Skalkaho Summit	1303	7258	3/24	75 1. 2	25.1	33.6	25.0	25.1%	
Slide Rock Mt. Smith Creek	13C2 16A1	7100 4800	3/24 3/28	43 121	12.8 48.6	18.6	15.7 44.3	15.3 41.9%	20 18
Southern Cross	1305	6500	4/1	33	7.6	7.0	6.8	5.5*	11
Stemple Pass	1201	6900	3/29	36	9.2	11.4	9.2	9.8%	18
Storm Lake #2	13C7	7780	3/23	47	12.0	18.3	14.3	14.8%	18
Stuart Mill	1306	6500	4/1	33	6.4	6.5	6.2	7.3*	
Stuart Mt. #1	1301	7400	4/5	102	36.0	37.3	24.2	30.5	20
Tenmile, Lower Tenmile, Middle	1202 1203	6250 6800	3/31 3/30	19 36	5.0 8.8	7.4	7.0	6.5	21 21
Tenmile, Upper	120J	8000	3/30	38	11.4	15.9	13.0	13.5	21
TV Mountain	14B1	6800	3/23	70	21.4	24.0	-	-J•J	1
*49 Meadows	15B3	5000	3/28	79	31.2	47.4	_	35.0	19
**Lookout	15B2	5250	3/27	98	36.0	53.4	32.7	33.5	20
BITTERROOT					Application				
East Fork R.S.	13D1	5400	4/2	19	7.1	8.6	8.1	5.5*	18
Gibbons Pass	13D2	7100	3/29	71	24.7	31.0	21.4	23.5%	18
Nezperce Pass Nezperce Camp	14 D 1 14D2	6575 5580	4/3	50. 52.	14.6	23.0	17.3	17.7	20 20
Skalkaho Summit	13C3	7259	3/2/1	75	25.1	33.6	25.0	25.1%	18
Stuart Mt. #1	13Cl	7400	4/5	102	36.0	37.3	24.2	30.5*	20
⇔Kit Carson	14D3 14C5	4700 5230	4/5 4/3 3/26	24. 88	7.6	10.4	11.2	7.8	20 1
**Lolo Pass **Moose Creek	13 D 16	6200	μ/τ	50	7.6 34.5 16.4	21.9	14.9	16.2	20
₩Powell R.S.	14 C 6	4230	3/28	36	13.0	18.1	_	-	1
⇔Savage Pass Packers Meadow	14C4 14C2	6000 5700	3/27 3/26	50 36 82 65	31.5	39.4	25.9 25.3	25.8%	16 20
#Average for per:					- 11	-, •	-2.0	==+>	
*Average is for	less tha	n 15 year	rs of re	cord in	the 19	38-52	period	l.	
*Average is for less than 15 years of record in the 1938-52 period.									



STATUS OF RESERVOIR STORAGE MISSOURI RIVER IN MONTANA April, 1957

BASIN USABLE THOUSAND ACRE FEET IN STORAGE									
& &		USABLE CAPACITY	THOUSAND ACRE FEET IN STORAGE ABOUT APRIL FIRST 15-Yr.Av						
STREAM .	RESERVOIR	1000's AF	1957	1956	1955	1938-52			
MISSOURI RIVER BAS	SIN								
Beaverhead Ruby River	Lima Ruby	84.0 38.8	6.6	46.9	23.2	62.6*			
Madison River Madison River Hyalite Creek Missouri River Missouri River Missouri River Missouri River Missouri River N.Fk Sun River N.Fk Sun River N.Fk Sun River Tiber Birch Creek Dupuyer & Birch Judith River Missouri River Missouri River Milk River Milk River W. Rosebud Cr. Red Lodge Creek Tongue River Swiftcurrent Cr.	Hebgen Lake Ennis Lake Middle Creek Canyon Ferry Hauser & Helens Lake Helena Holter Lake Gibson Willow Creek Pishkun Marias Swift Lake Francis Ackley Lake Ft. Peck Fresno Nelson Mystic Lake Cooney Tongue River Sherburne Lake	345.0 41.0 8.0 2,043.7	170.1 37.1 - 1,440.0 60.8 9.8 69.0 42.0 24.0 16.2 608.5 - - 5,627.0 110.2 49.4 4.6	187.6 27.9 4.5 1,637.0 55.6 8.1 73.0 77.0 28.2 23.6 130.0 30.0 92.3 4.2 5,164.0 108.6 41.8 2.0 18.9	212.5 33.5 5.6 1,255.0 56.8 8.4 76.3 74.8 26.4 19.2 - 30.0 97.0 4.4 9,611.0 131.9 53.4 2.5 - 28.2 23.2	234.0 32.6 5.3* - 44.6* 4.9* 55.2 73.0 14.1 18.5 - 24.9 78.8 4.4 10,914.9 93.6 31.8 2.8 15.6* 19.6* 24.9			
MISSOURI RIVER BAS									
Shoshone River Wind River Wind River Bull Creek Belle Fourche	Buffalo Bill Boysen Pilot Butte Bull Lake Key Hole	380.3 560.0 31.6 152.0 190.3	116.4 192.6 21.8 63.2 2.6	117.2 2.5 23.3 55.3 20.8	133.8 268.7 26.4 62.2 15.0	252.8 152.4* 17.2* 51.6* 1.3*			
MISSOURI RIVER BASIN - NORTH DAKOTA									
Heart River Heart River Missouri River	Heart Butte Dickinson Garrison Lake	54.80 4.30 13,805.00	35.9 3.8 1,002.8	67.1 4.8 1,256.0	60.7 5.7 784.0	69.0% 5.58% -			
MISSOURI RIVER BAS	IN - SOUTH DAKOT								
Belle Fourche Cheyenne River Cheyenne River Grand River Missouri River	Belle Fourche Angostura Deerfield Shadehill Ft. Randall	185.2 92.0 15.1 84.0 2,401.6	49.9 33.5 8.6 7.6 1,589.6	98.8 78.4 10.6 82.7 1,683.6	68.0 48.5 10.9 77.8	117.2* 41.0* 13.7* -			

^{*}Average is for less than 15 years of record in the 1938-52 period



STATUS OF RESERVOIR STORAGE COLUMBIA RIVER IN MONTANA April, 1957

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000's AF	THOUSAND ACRE FEET IN ABOUT APRIL FIRS 1957 1956 19			ORAGE 15-Yr.Avg. 1938-52	
COLUMBIA RIVER BAS Flint Creek S.Fk. Flathead 5/ Flathead River Flathead River 6/ Flathead River 7/ Jocko Creek	Georgetown Lk Hungry Horse Flathead Lake Camas Res. Mission Valley Lower Jocko Lk	31.0 3,500.0 1,791.0 42.8 98.6 7.6	17.3 1,810.0 592.4 31.5 30.7	18.0 1,942.0 1,079.0 41.8 47.3 Snowbo	21.6 2,107.0 675.0 41.1 60.2	21.7 1,200.3* 955.5 22.9* 48.5*	

^{5/ 4-}year average

^{6/} Camas Reservoirs are shown as a sum of (4) small reservoirs on the west side of Flathead Lake located on Dry Creek and Little Bitterroot River.

Mission Valley Reservoirs are shown as a sum of (8) small reservoirs located south and east of Flathead Lake. Both Camas and Mission Valley reservoirs are operated by the Indian Irrigation Service.

^{*} Average is for less than 15 years of record in the 1938-52 period.





Federal - State - Private COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"